

WHAT IS CLAIMED IS:

1. A system for enhancing navigation, comprising:

a processor for receiving and processing radio frequency (RF) position data, inertial measurement unit (IMU), and Inertial Navigation System (INS) data;

a receiver antenna operable to supply the RF position data to the processor;

an IMU, co-located with the receiver antenna, operable to provide the IMU data to the processor; and

a single coaxial cable that is operable to simultaneously supply direct current (DC) power to the IMU and to transmit the RF position data and the IMU data to the processor.
2. The system of claim 1, wherein the RF position data is global position satellite data.
3. The system of claim 1, wherein the RF position data is Galileo data.
4. The system of claim 1, wherein the IMU is a micro electromechanical systems (MEMS) IMU.
5. The system of claim 1, further comprising at least one filter operable to direct the DC power to the IMU but not to the receiver antenna.
- 6.. The system of claim 1, further comprising at least one filter operable to distinguish between the RF position data and the IMU data.

7. The system of claim 1, wherein the system is mounted on an aircraft.
8. The system of claim 1, wherein the single coaxial cable passes through an interior portion of a wing of an aircraft.
9. A system for powering and receiving data from remote equipment, comprising:
a combination power and data cable in communication, via a filter, with a MEMS IMU and a GPS receiver antenna,
the filter being operable to pass DC power from the combination power and data cable to the MEMS IMU and to preclude DC power from reaching the GPS receiver antenna,
the filter further being operable to pass IMU data generated by the MEMS IMU and received GPS radio frequency energy to the combination power and data cable, wherein
the power and data cable is in communication with a processor operable to process the IMU data and GPS radio frequency energy.
10. The system of claim 9, wherein the MEMS IMU and GPS receiver antenna are co-located.
11. The system of claim 10, wherein the MEMS IMU and GPS receiver antenna are mounted on a wing of an aircraft.
12. The system of claim 9, further comprising an aircraft inertial navigation system in communication with the processor.

13. The system of claim 9, wherein the filter is co-located with the MEMS IMU and GPS receiver antenna.

14. The system of claim 9, further comprising at least another filter operable to distinguish between the IMU data and the received GPS radio frequency energy.

15. The system of claim 14, wherein the processor is in communication with the at least another filter and receives the IMU data and the received GPS radio frequency energy via the at least another other filter.

16. A system, comprising:
a first subsystem;
a second subsystem; and
a single coaxial cable spanning a distance between the first subsystem and the second subsystem,

the first subsystem, comprising:

a processor for processing both GPS data and MEMS IMU data;
a first filter for allowing DC power to pass there through; and
a second filter for processing GPS radio frequency energy and IMU data,

the second subsystem, comprising:

a MEMS IMU;
a GPS receiver antenna; and

and a third filter for sending DC power to the MEMS IMU and for passing MEMS IMU data and GPS radio frequency energy to the processor.

17. The system of claim 16, wherein the first subsystem further comprises an aircraft inertial navigation system.

18. The system of claim 16, wherein the second subsystem is located on an aircraft wing.

19. The system of claim 16, wherein the GPS receiver antenna and the MEMS IMU are co-located.